

**Claims**

1. A ligand that specifically binds to the GHRH receptor of SEQ ID NO: 4.
2. A nucleic acid sequence comprising SEQ ID NO: 6.
3. A polypeptide comprising the amino acid sequence of SEQ ID NO: 2, a  
5 biologically active fragment thereof, or a polypeptide that differs from SEQ ID NO: 2 by one or more conservative amino acid substitutions yet retains its ability to stimulating second messenger signaling at the cloned chicken GHRH receptor.
4. The polypeptide of claim 3 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO: 2.
- 10 5. A polypeptide comprising the amino acid sequence of SEQ ID NO: 5
6. The polypeptide of claim 5 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO: 4
7. A chicken GHRH receptor comprising the amino acid sequence of SEQ ID NO: 5 or an amino acid sequence that differs from SEQ ID NO: 5 by 1-3  
15 conservative amino acid substitutions.
8. A polypeptide mimetic or protein derivative of the chicken GHRH receptor of SEQ ID NO: 7.
9. A method of enhancing feed utilization in an avian species comprising the step of administering a GHRH analog or derivative of said species wherein the  
20 analog or derivative is an agonist or antagonist of the GHRH receptor of SEQ ID NO: 4.
10. A method of enhancing the growth and production of lean muscle mass in an avian species comprising the step of administering a GHRH analog or derivative to said species wherein the analog or derivative is an agonist or antagonist of the GHRH receptor of SEQ ID NO: 4.
- 25 11. A method of enhancing feed utilization in an avian species comprising the step of administering a GHRH polypeptide comprising the amino acid sequence of SEQ ID NO: 2.
12. A method of enhancing the growth and production of lean muscle mass in an avian species comprising the step of administering a GHRH polypeptide  
30 comprising the amino acid sequence of SEQ ID NO: 2.
13. A method of enhancing feed utilization in an avian species comprising the step of administering a compound that up-regulates the expression of the GHRH

-17-

receptor of SEQ ID NO: 4.

14. A ligand that interacts with the GHRH receptor of SEQ ID NO: 4 and stimulates second messenger signaling at the chicken GHRH receptor.

15. A nucleic acid sequence encoding the chicken GHRH receptor, said sequence comprising the nucleic acid sequence of SEQ ID NO: 3.

16. A transgenic avian species comprising a nucleic acid sequence encoding the protein of claim 3.

17. A transgenic avian species comprising a nucleic acid sequence encoding the protein of claim 7.

10

Rule 126

1. The present invention relates to a nucleic acid sequence encoding a chicken GHRH receptor, said sequence comprising the nucleic acid sequence of SEQ ID NO: 3.